

METHOD AND APPARATUS FOR MANAGING SURPLUS MEMORY IN A MULTITASKING SYSTEM

ABSTRACT

One embodiment of the present invention provides a system for managing surplus memory in a multitasking system. The system operates by reserving a guaranteed amount of memory from a heap for a task. Heap memory not reserved for a task is surplus memory. When the system receives a request from the task to allocate memory for a new object, the system determines if memory is available within the guaranteed amount of memory. If so, the system allocates memory for the new object from the guaranteed memory. Otherwise, if available, the system reserves an additional amount of memory to the task from surplus memory in the heap. The system then allocates memory for the new object from the additional amount of memory. Allocating memory for the new object from the additional amount of memory delays garbage collection of the memory. Surplus memory can be transparently reclaimed.